

# MONTHLY WEATHER REVIEW.

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## INTRODUCTION.

The meteorological conditions which prevailed over the United States during October, 1883, as compiled from the reports from the Signal Service and voluntary observers, and from the monthly reports of state weather services, are shown in this REVIEW.

Descriptions of the storms which occurred over the north Atlantic ocean are also given, and their approximate paths shown on chart ii.

On chart i. are shown the paths of nine atmospheric depressions, which are described under "areas of low barometer."

The mean temperature of October has been greater than the normal in the south Atlantic and Gulf states, while in all other parts of the United States it has been below the normal.

The monthly precipitation has exceeded the average for October over the greater part of the country, the exceptions being the Rio Grande valley, lake region, south Atlantic and east Gulf states, and the north Pacific coast region, where deficiencies have occurred.

The weather over the north Atlantic ocean was generally stormy, being attended by a succession of strong westerly breezes. The depressions charted did not exhibit more storm energy than is usual in October.

In the preparation of this REVIEW the following data, received up to November 20th, have been used, viz.: the regular tri-daily weather-charts, containing data of simultaneous observations taken at one hundred and twenty-two Signal Service stations and twelve Canadian stations, as telegraphed to this office; one hundred and fifty-nine monthly journals, and one hundred and forty monthly means from the former, and twelve monthly means from the latter; two hundred and forty-two monthly registers from voluntary observers; fifty-two monthly registers from United States Army post surgeons; marine records; international simultaneous observations; marine reports, through the co-operation of the "New York Herald Weather Service;" abstracts of ships' logs, furnished by the publishers of "The New York Maritime Register;" monthly weather reports from the local weather services of Indiana, Iowa, Kansas, Nebraska, Ohio, and Tennessee, and of the Central Pacific railway company; trustworthy newspaper extracts; and special reports.

## ATMOSPHERIC PRESSURE.

[Expressed in inches and hundredths.]

The distribution of mean atmospheric pressure for the month of October, 1883, determined from the tri-daily observations of the Signal Service, is shown by the isobarometric lines on chart iii. An area of barometric maxima inclosed by the isobar of 30.15, extends from southern New England to Virginia, where the mean pressures vary from 30.15 to 30.19. From this region the mean pressures decrease to 30.1 over the maritime provinces of Canada; to 29.98 at Key West, Florida; and to 29.88 in Arizona, where a small area

of barometric minima is inclosed by the isobar of 29.9. The isobar of 30.05 is traced from Washington Territory in an irregular line southeastward to the mouth of the Mississippi river. East of this line the monthly barometric means increase gradually to the region of greatest pressure on the Atlantic coast, while to the westward a corresponding decrease is shown, the pressure being least in Arizona.

Compared with the mean pressure of the preceding month (September), there has been a slight decrease in the northern and middle slopes, upper Missouri valley, and in the west Gulf states. In all other districts the mean pressure has been greater, the increase being most marked in New England and the Canadian maritime provinces where it varies from .10 to .15. On the Pacific coast the increase ranges from .06 to .10 in California, and from .01 to .07 in Washington Territory and Oregon.

## DEPARTURES FROM THE NORMAL VALUES FOR THE MONTH.

The mean pressure of October, 1883, compared with the normal of the corresponding month shows slight deficiencies in the southern states, in the Rocky mountain region, and on the Pacific coast. Over the northern districts east of the Missouri valley the mean pressure is above the normal, the departures being greatest in the upper Missouri valley, upper lake region, and New England, where they range from .08 to .11.

## BAROMETRIC RANGES.

The monthly barometric ranges have been greatest from Dakota eastward to New England, where they have varied from 1.22 to 1.59; they have been least on the eastern Gulf coast, in Florida, and Arizona, the smallest range, 0.33, being reported from Cedar Keys and Key West, Florida.

In the several districts the monthly ranges have varied as follows:

*New England.*—From 1.16 on the summit of Mount Washington, New Hampshire, to 1.59 at Eastport, Maine.

*Middle Atlantic states.*—From 0.92 at Norfolk, Virginia, to 1.45 at Albany, New York.

*South Atlantic states.*—From 0.37 at Jacksonville, Florida, to 0.88 at Kitty Hawk, North Carolina.

*Florida.*—From 0.33 at Cedar Keys and Key West, to 0.36 at Sanford.

*Eastern Gulf.*—From 0.37 at Pensacola, Florida, and Mobile, Alabama, to 0.58 at Vicksburg, Mississippi.

*Western Gulf.*—From 0.51 at Galveston, Texas, to 0.88 at Fort Smith, Arkansas.

*Rio Grande valley.*—From 0.50 at Brownsville, Texas, to 0.55 at Rio Grande City, Texas.

*Tennessee.*—From 0.67 at Chattanooga, to 0.71 at Memphis and Nashville.

*Ohio valley.*—From 0.94 at Louisville, Kentucky, to 1.18 at Pittsburgh, Pennsylvania.

*Lower lakes.*—From 1.23 at Toledo, Ohio, to 1.49 at Oswego, New York.

*Upper lakes.*—From 1.14 at Chicago, Illinois, to 1.42 at Port Huron, Michigan.

*Extreme northwest.*—From 0.98 at Fort Buford, Dakota, to 1.32 at Moorhead and Saint Vincent, Minnesota.

*Upper Mississippi valley.*—From 0.84 at Cairo, Illinois, to 1.16 at Saint Paul, Minnesota.

*Northern slope.*—From 0.76 at Cheyenne, Wyoming, to 0.97 at Fort Shaw, Montana.